

Claims:

1. A password input method by the matching of cells, comprising the steps of:

a step in which a matching board and a reference board are displayed

5 on a user interface;

a step in which a user selects a certain cell on the matching board; and

a step in which a certain cell of the matching board selected by the user through a computation is matched with a cell including a password symbol of the reference board.

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2. The method of claim 1, wherein a cell of the matching board selected by the user is matched with a cell including a password symbol of the reference board, the cell of the matching board that the user does not select is concurrently matched with the cell having the symbol that is not the password symbol of the reference board.

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3. The method of claim 1, wherein in order to match a certain cell of the matching board with the cell including the password of the reference board, a computation is performed with respect to the matching board.

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4. The method of claim 3, wherein said computation performed with respect to the matching board is a movement of the matching board.

5. The method of claim 1, wherein the symbols included in the cells of the reference board are displayed in a recovery extraction sequence or a sequence of their sizes.

6. The method of claim 1, wherein the cells of the matching board are all different from each other or are all same or a part of the same is different.

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7. The method of claim 1, wherein the cell of the matching board is matched with the cell of the reference board using an input apparatus.

8. The method of claim 1, wherein when a computation is performed with respect to the matching board, a cell (cells) of the matching board being out of a range of the reference board is rotated and moved.

9. The method of claim 1, wherein a completion of the matching between a cell that a user selects from the matching board and a cell including a password symbol of the reference board is informed to a system.

10. The method of either claim 1 or claim 9, wherein when a procedure for matching a cell that a user selects from the matching board and a password symbol of the reference board is completed, the cell that the user selects from 5 the matching board is informed to the system.

11. The method of claim 10, wherein said step for informing the cell that the user selects from the matching board to the system includes:

10 a step in which at least more than one cell including the special symbol is displayed on the reference board; and
a step in which the cell that the user selects from the matching board is matched with the cell including the special symbol of the reference board.

12. The method of claim 11, wherein when a cell that the user selected from 15 the matching board is matched with a cell including a special symbol of the reference board, the other cells including the special symbols of the reference board do not match with any cell of the matching board.

13. The method of claim 1, wherein a plurality of reference boards are not 20 overlapped from each other, and at the same time, are displayed on a user

interface.

14. The method of claim 1, wherein the symbols of the reference board sequentially matched with each cell of the matching board are the candidates of
5 the password for thereby performing a user authentication process.

15. The method of claim 12, wherein the symbols of the reference board sequentially matched with the cells of the matching board matched with the cells including the special symbols are grouped and processed as the password.

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16. The method of claim 1, wherein when a user selects a cell of the matching symbol, the user selects a certain cell including one password symbol being in his password.

15 17. A method for inputting a password by the matching of cells, comprising the steps of:

a step in which a matching board and a reference board are displayed on a user interface;

a step in which a computation is performed with respect to the matching board; and
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a step in which a user selects a cell of the reference board matching with a cell including a password symbol of the matching board.

18. The method of claim 17, wherein a computation performed with respect
5 to the matching board is not shown on a user interface.

19. The method of claim 18, wherein a user transfers a certain signal so
that the matching board is not shown on the user interface.

10 20. The method of claim 18, wherein the matching board is disappeared
after a certain time is passed after the matching board is shown on the user
interface.

21. The method of claim 17, wherein said step in which the user selects a
15 cell of the reference board matched with at least more than one cell including
the password symbol of the matching board is performed by at least more than
two times after a computation is performed with respect to the matching board.

22. The method of claim 17, wherein when displaying the matching board
20 and the reference board on the user interface, the cell of the matching board is

matched with the cell of the reference board by a 1:1 matching method.

23. The method of claim 17, wherein the password symbols of the matching board are shown in a non-recovery extraction sequence or a certain sequence.

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24. The method of claim 17, wherein the cells of the reference board are all different or all same or a part of the same is same.

25. The method of claim 17, further comprising a step in which a procedure
10 completion that a user selects a cell of the reference board matched with the cell including the password symbol of the matching board is informed to a system.

26. The method of claim 17, wherein a matching board formed of cells
15 including a certain password symbol is shown.

27. The method of claim 17, wherein when a user selects a cell of the reference board, a symbol included in the cell of the matching board matched with the cell selected by the user is processed as a password symbol.

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28. A password system, comprising:

a display means having a reference board in which a plurality of cells including one real reference cell that is a reference for matching, and a plurality of cells including a plurality of virtual reference cells for disguising the real reference cell are aligned and displayed, and a matching board in which a plurality of cells having one real matching cell matched with the real reference cell and a plurality of virtual matching cells for disguising the real matching cell are aligned and displayed;

10 a cell generation means for generating a group of cells displayed on the reference board and the matching board;

a display control means for receiving information concerning a group of the cells generated by the cell generation means and aligning and displaying on the reference board and the matching board;

15 a matching means for matching a real reference cell and a real matching cell so that a user inputs a password;

a matching cell process means for generating a group of matched cells when the symbols aligned on the reference board and the matching board are matched by the matching means and inputting into an authentication process means;

20 a memory for storing an authentication reference information; and

an authentication process means for performing an authentication process for judging whether a real matching cell is matched with a real reference cell included in the group of the matched cells based on an authentication reference information and permitting or denying an access to the 5 main system by the user.

29. The system of claim 28, wherein the symbols included in the cells aligned on the reference board and the matching board are a number, a character, a graphic, a picture or a combination of the same.

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30. The system of claim 29, wherein the symbols aligned on the reference board and the matching board have at least more than two different colors.

31. The system of claim 28, wherein said symbol generation means 15 determines the number of the cells of the group of cells wherein the number of the symbols aligned on the reference board and the matching board are same or not same.

32. The system of claim 28, wherein said display control means does not 20 display the reference board but displays only the matching board, and the user

imagines the symbols aligned on the reference board and matches the real matching cell with the imagined real reference cell.

33. The system of claim 1, wherein when a plurality of real reference cells
5 are matched with a plurality of real matching cells by at least more than one symbol matching, at least more than one reference board and at least more than one matching board are concurrently displayed.

34. The system of claim 1, wherein the symbols aligned on the reference
10 board or the matching board are circulated and moved for thereby matching the real reference cell and the real matching cell.

35. The system of claim 34, wherein said reference board or matching board is automatically circulated.

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36. The system of one of claims 28 through 33, a circulation and movement distance of the reference board or the matching board is directly inputted for matching the real reference cell and the real matching cell.

20 37. The system of claim 28, wherein said reference board and matching

board are displayed on a display means using a graphic user interface.

38. The system of claim 28, wherein said display means includes a mechanical mechanism for displaying the reference board or the matching board and circulation-displaying the aligned symbols.

39. The system of claim 38, wherein said mechanical mechanism includes a plurality of wheels for circulation-displaying a plurality of symbols, and a wheel control button for controlling the wheels.

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40. The system of claim 28, wherein said symbol generation means randomly generates a sequence of the symbols aligned on the reference board and/or the matching board based on a non-recovery method.

15 41. The system of claim 28, wherein a user ID is inputted together with a password input based on the symbol matching.

42. The system of claim 28, wherein said symbol generation means generates a group of the cells displayed on the reference board and/or the matching board based on an authentication reference board and determines an

aligning sequence of the cells so that the minimum circulation is performed within a certain range when a user matches the real reference cell and the real matching cell.

5 43. The system of claim 28, wherein said symbol generation means patches an authentication reference information based on the user ID.

44. The system of claim 28, wherein said authentication process means patches an authentication reference information based on either the group of
10 the matched cells or the user ID.

45. The system of claim 28, wherein said authentication reference information stored in the memory is a group of the real reference cells and a group of the real matching cells.

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46. The system of claim 45, wherein when one between the real reference cell group and the real matching cell group can induce the other one, the one capable of inducing is stored as an authentication reference information.

20 47. The system of claim 28, wherein an authentication reference

information stored in the memory is information capable of inducing the group of the real reference cells and the group of the real matching cells.

48. The system of claim 28, wherein the user interface of the 5 communication terminal connecting with the main system through the communication network has a display means and a matching means.

49. The system of claim 48, wherein said communication terminal transfers a circulation and movement distance of the reference board or the matching 10 board to the main system when a user inputs a password, and the transferring information is selectively encrypted.

50. The system of claim 48, wherein said communication terminal includes a user ID, and the authentication process means patches the authentication 15 reference information based on the user ID.

51. A user authentication method of a password system, comprising the steps of:

20 a step for generating a first cell group including one real reference cell that is a reference for matching and a plurality of virtual reference cells for

disguising the same, and a second cell group including one real matching cell matching with the real reference cell and a plurality of virtual matching cells for disguising the same;

a step for displaying a reference board for displaying the first cell group

5 and a matching board for displaying the second cell group on a display means;

a step for inputting a two-password for matching the real reference cell of the reference board and the real matching cell of the matching board by a matching means;

a step for generating a group of the matched cells when the symbols of

10 the reference board and the matching boards are matched and inputting into an authentication process means; and

a step for performing an authentication process for allowing or denying an access to a main system by a user based on the authentication reference information for the authentication process and the inputted matched symbol group.

52. The method of claim 51, wherein in a step for generating the first and second cell groups, one of the aligning sequences of the first and second cell groups have a fixed aligning sequence, and the other of the same has a non-
20 recovery random sequence.

53. The method of claim 51, wherein in a step for generating the first and second cell groups, the aligning sequences of the first and second cell groups have a non-recovery random sequence, respectively.

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54. The method of either claim 52 or claim 53, wherein said step for generating the first and second cell groups includes a step for patching the authentication reference information, and the first and second cell groups are generated based on the patched authentication reference information, and 10 when the user matches the real reference cell and the real matching cell, an aligning sequence of the cells is determined so that a circulation is performed within a certain range.

55. The method of claim 51, further comprising a step for inputting a user ID.

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56. The method of claim 54, wherein said step for generating the first and second cell groups includes a step for patching the authentication reference information based on the user ID inputted, and the first and second cell groups are generated based on the patched authentication reference information, and 20 when the user matches the real reference cell and the real matching cell, an

aligning sequence of the symbols is determined so that a circulation is performed within a certain range.

57. The method of claim 51, wherein said authentication process step
5 includes:

- a step for patching an authentication reference information;
- a step for inducing a real reference cell group and a real matching cell group from the authentication reference information;
- a step for determining the cells matched with the induced real reference 10 cell group in the group of the matched cells;
- a step for comparing the group of the determined cells with the group of the induced real matched cell; and
- a step for permitting or denying an access to the main system by a user based on a result of the comparison.

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58. The method of claim 57, further comprising a step for inputting a user ID wherein an authentication reference information is patched based on a user ID inputted in the authentication process step.

20 59. The method of claim 57, wherein in said authentication process step,

the authentication reference information is patched based on the group of the cells matched.

60. The method of claim 57, in said step for inducing the real reference cell group and the real matched cell group from the authentication reference information, when the authentication reference information is $X_1Y_1X_2Y_2X_3Y_3\dots X_{n-2}Y_{n-2}X_{n-1}Y_{n-1}X_nY_n$, the real reference cell is induced to $X_1X_2X_3\dots X_{n-2}X_{n-1}X_n$, and the real matched cell is induced to $Y_1Y_2Y_3\dots Y_{n-2}Y_{n-1}Y_n$.

10 61. The method of claim 57, wherein in said step for inducing the real reference cell group and the real matching cell group from the authentication reference information, when the authentication reference information is $X_1X_2X_3\dots X_{n-2}X_{n-1}X_n$, the real reference cell is induced to $X_1X_2X_3\dots X_{n-2}X_{n-1}$, and the real matching cell is induced to $X_2X_3\dots X_{n-2}X_{n-1}X_n$.

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62. The method of claim 57, wherein in said step for inducing the real reference cell group and the real matching cell group from the authentication reference information, when the authentication reference information is $X_1X_2X_3\dots X_{n-2}X_{n-1}X_n$, the real reference cell is induced to $X_1X_2X_3\dots X_{n-2}X_{n-1}X_n$, and the real matching cell is induced to $X_2X_3\dots X_{n-2}X_{n-1}X_n X_1$.

63. The method of claim 51, further comprising a step for encrypting a group information of the matched cells when the information of the group of the matched cells is provided to the authentication process means that performs an 5 authentication process step through a communication network.

64. The method of claim 51, wherein a group information of the matched cells is used as an index information displaying a communication terminal when the information of the group of the matched cells is provided to the 10 authentication process means that performs an authentication process step through a communication network.